

Amendments to the Drawings:

The attached sheets of drawings, which include FIG. 15 and FIG 16, are formal drawings that replace the original sheets.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Claims 1-18 are pending in the instant patent application. Claims 19-27 have been cancelled and Claims 28-60 are withdrawn. Reconsideration and favorable action are respectfully requested in view of the foregoing amendments and following remarks.

1. Claim Rejections under 35 U.S.C. § 102(b)

In the Office Action, Claims 1-13 and 16-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,836,943 to Miller, III (hereinafter "Miller"). Applicants respectfully submit that the cited reference does not disclose or suggest all of the limitations in independent Claim 1.

In Miller, "The controller 120 regulates the generator circuit 100 in response to the measured tissue complex impedance 11 and the rate of change of impedance to provide improved electrosurgical effects" (see col. 12, line 59). More specifically, Miller describes two embodiments:

1. In the first embodiment "tissue impedance 11 is measured in between electrosurgical pulses" (see col. 12, line 64-65). "The controller 120 compares the present tissue condition (impedance) with a desired surgical effect and regulates the generator circuit 110 to obtain the desired surgical effect" (see col. 13, lines 8-11).
2. In the second embodiment "tissue impedance is measured periodically or continuously during electrosurgical pulses" (see col. 13, lines 11-12). "The controller 120 then regulates the generator circuit 110 in response to the measured tissue condition to obtain a desired surgical effect" (see col. 13, lines 20-23).

In both embodiments, a measured value is used to control or regulate the generator circuit. Miller's use of the measured value to actively control the RF output is further explained in the specification.

"The DC regulator 10 and the amplifier 100 enable the controller 120 to rapidly vary the characteristics of the output signal, including frequency, magnitude, and pulse width in response to the measured tissue complex impedance." (Emphasis added).

(see col. 13, line 25-30).

Miller describes a conventional closed-loop control system in which the controller rapidly varies the output signal in response to a measured value. In the first embodiment, the controller 120 compares the present tissue condition with a desired surgical effect and regulates the generator circuit. In the second embodiment, the controller regulates the generator circuit in response to the measured tissue condition.

Applicants respectfully draw the Examiner's attention to Claim 1, which recites, *inter alia*:

a method for electrosurgically sealing tissue comprising applying a first pulse of RF energy to the tissue and applying at least one subsequent RF energy pulse to the tissue and varying RF energy parameters of individual pulses of subsequent RF energy pulses in accordance with at least one characteristic of an electrical transient that occurs during the individual pulses of the subsequent RF energy pulses.

Applicants submit that "varying RF energy parameters . . . in accordance with at least one characteristic of an electrical transient" is not a conventional closed-loop system as used by Miller. An "electrical transient", as defined by the present specification, includes "a current transient "A" " (see para. [0077]), and "the rate of change of an

electrical characteristic (for example current, voltage, impedance, etc.) of the transient "A" . . .". (see para. [0078]). As illustrated in FIG. 7B and 8, the transient "A" is the waveform not a single value or measurement.

A "characteristic of an electrical transient" is therefore not a single value or measurement. In addition, a "characteristic of an electrical transient" is not used as feedback to a control loop nor is a "characteristic of an electrical transient" used to rapidly vary the characteristics of the output signal. Instead, the "characteristic of an electrical transient" is "employed to determine the changes to, or the values of, the parameters of the pulse duty cycle ("Dwell Time") and to change the pulse voltage, as well as other parameters". (see para [0077]).

Unlike the conventional closed loop control system used in Miller, the RF pulse waveform in the present disclosure is known before the application of the pulse. While Miller rapidly varies the characteristics of the output signal based on a measured value, the characteristics of the RF pulses in the present application are defined by the look-up table and modified based on "at least one characteristic of an electrical transient" of an RF pulse.

Therefore, it is believed that Claim 1 is patentably distinct over the teachings of Miller. Accordingly, withdrawal of the rejection with respect to Claim 1 under 35 U.S.C. §102(b) as anticipated by Miller and allowance thereof are respectfully requested.

Claims 2-18 depend from independent Claim 1 and are patentable for at least the same reasons as discussed above. Accordingly, for at least the reasons given above for Claim 1 withdrawal of the rejection with respect to these Claims is respectfully requested.

2. Claim Rejections under 35 U.S.C. § 103(a)

In the Office Action, Claims 14 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller in view of United States Patent No. 5,558,671 to Yates, et al. (hereinafter "Yates"). Applicants respectfully traverse this rejection on the grounds that neither Miller nor Yates, alone or in combination, discloses or suggests all of the limitations of the rejected claims. Claims 14 and 15 depend from Claim 1.

As discussed previously, with respect to rejection of Claim 1, Miller simply fails to disclose or suggest a method for electrosurgically sealing tissue comprising applying a first pulse of RF energy to the tissue and applying at least one subsequent RF energy pulse to the tissue and varying RF energy parameters of individual pulses of subsequent RF energy pulses in accordance with at least one characteristic of an electrical transient that occurs during the individual pulses of the subsequent RF energy pulses, as recited by Applicants' Claim 1.

Yates does not cure the deficiencies of Miller. Like Miller, Yates uses conventional closed loop control (see col. 9, line 28-62) and therefore Yates does not cure the deficiencies described hereinabove. In addition, Yates also does not cure the deficiencies in Miller regarding the use of a look-up table. The look-up table in Yates describes a function of the minimum impedance value and is used exclusively for determining this value (see col. 8, lines 8-23). The look-up table in Yates describes a single value.

Applicants submit the function and use of the look-up table in Yates is vastly different than the function and use of the look-up table in the present disclosure. The look-up table in the present disclosure contains a plurality of entries which describe the characteristics of the energy pulse.

"The values read from the seal parameter LUT 80 comprise the power, the maximum voltage, starting voltage, minimum voltage,

voltage decay, voltage ramp, maximum RF on time, maximum cool scale factor, pulse minimum, pulse dwell time, pulse off time, current and the desired pulse width.”

(see FIG. 6B, para. [0071-0074])

Applicants submit that Yates does not sufficiently teach the use of a look-up table to cure the deficiencies in Miller, thus Claims 14 and 15 are patentable for the reasons discussed above. Accordingly, and for at least the reasons given above, withdrawal of the rejection with respect to Claims 14 and 15 under 35 U.S.C. §103(a) over Miller, in view of Yates is respectfully requested.

3. Rejection of Claims 1-18, and 28-45 Under Doctrine of Obviousness-type Double Patenting

Claims 1-18 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 23-52 of U.S. Patent No. 6,398,779 which is commonly owned. A terminal disclaimer is filed concurrently with this amendment. The terminal disclaimer is proper to traverse the rejection since the present application and U.S. Patent Nos. 6,398,779 are commonly owned.

Claims 1-18 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the pending claims of copending Application No. 10/919,613. Applicants respectfully traverse the rejection.

In an office action dated 5/25/2006 for Application No. 10/916,613 Claims 1-18, now pending in the present application, and Claims 19-27, now pending in Application No. 10/919,613 were determined by the Examiner to be distinct inventions. As a result, Applicants were required to elect a species for prosecution. Applicants are confused by Examiner's current position, i.e., that the claims of the copending Applications are not patentably distinct, which is contrary to the earlier determination that two sets of claims

were two distinct inventions. The Examiner is respectfully invited to withdraw the rejection or contact Applicants' attorney at the phone number below.


CONCLUSION

In view of the foregoing amendments and remarks, reconsideration of the application and allowance of all pending claims is earnestly solicited.

Should the Examiner believe that a telephone interview may facilitate prosecution of this application, the Examiner is respectfully requested to telephone Applicants' undersigned representative at the number indicated below.

Please charge the statutory disclaimer fee of \$130.00 to Deposit Account No. 21-0550. In addition, please charge any deficiency as well as any other fee(s) that may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s), to Deposit Account No. 21-0550.
TWO (2) COPIES OF THIS SHEET ARE ENCLOSED

Respectfully submitted.



Thomas A. Beaton
Reg. No. 46,543
Attorney for Applicants

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UNITED STATES SURGICAL

A DIVISION OF TYCO HEALTHCARE GROUP LP
195 McDermott Road
North Haven, CT 06473
(303) 581-6831